

THORNER (M.) *ed*

The Management of Foreign
Bodies in the Air Passages

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THE MANAGEMENT OF FOREIGN BODIES IN THE AIR-PASSAGES.¹

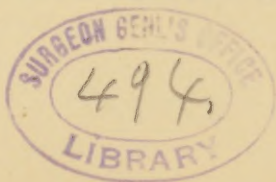
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IN considering the question as to the management of foreign bodies in the air-passages, I think I may safely omit lengthy excursions into the literature of the subject. It is certainly interesting, from a historical stand-point, to study what the ancients, beginning with Hippocrates, the *divus pater medicinæ*, had to say on this subject; or what reference we might find in the writings of the mediæval authors, or in the literature of more modern times. But for practical reasons, and especially from a feeling of due consideration for the rights of other essayists, it is probably best to simply consider the question from our present knowledge of the subject; that is, to investigate what the experience of to-day, with the present methods of examination and operative procedures, teaches us to be the most rational plan of dealing with foreign bodies in the air-passages. For this reason, therefore, I shall also not enter into an enumeration of all the extraneous substances that have found their way into the air-passages, further than to say that anything from a shoe button to a five-dollar gold-piece may be found in the respiratory tract; and I shall, for like reasons, omit reference to the various exi-

¹ Read before the Ohio State Medical Society, June 29, 1893.



gencies that permitted these foreign bodies to lodge in the air-passages. Let us simply suppose that we have to deal with the fact that a foreign body is somewhere lodged in the air passages.

It is obvious that such a foreign body ought to be removed as soon as possible. The presence of a foreign body anywhere in the respiratory tract constitutes a danger, immediate or remote, to the life of the patient. This danger, certainly, varies in degree according to the location, size, or nature of the foreign body. While it is very slight and generally remote in cases where the foreign body is in the nose, the post-nasal space, or the pharynx, it increases rapidly in gravity whenever the foreign body has invaded the deeper parts and commences to embarrass the respiratory function, either directly by obstructing the air-passages, or indirectly by pressing upon the soft posterior wall of the windpipe from within the œsophagus. We must, therefore, look upon the presence of a foreign body in the deeper air-passages as a constant menace to the life of the patient, notwithstanding the well-recorded fact that occasionally foreign bodies were lodged for a long time in the air-passages, yet did not create any serious disturbance; or where they were expelled, after a shorter or longer term, by nature's own efforts. Such cases are simply exceptions. The number of cases is much larger where the most serious results followed the entrance into the air-passages of extraneous substances, when the expectant method prevailed. I shall not tire you with statistics made up by various compilers, regarding the question of interference or non-interference in such cases. But I may state that ample experience has shown the mortality to be much greater (in fact again as great) in cases where the foreign body was not removed, than in the cases where operations were undertaken for the relief of the patient. *Laisser aller* is a dangerous maxim in these cases; many a life might have been saved by a timely operation.

I shall briefly relate two cases from a larger number of

my own, of which the first apparently contradicts these statements, while the second confirms them.

CASE I.—Mr. W. D——, aged thirty-five, was quietly standing at his window one Saturday afternoon in May, 1890, when he felt something work up in his throat. Before it could be ejected it slipped down again; he immediately experienced a feeling of suffocation and the breathing became difficult. Dr. N. P. Dandridge, who was consulted, failed to discover anything wrong with the young man. The patient had eaten green peas with his dinner, and expressed himself as confident that a pea had slipped down the trachea. The breathing became easier for a while; but when the troublesome sensation could not be relieved, Dr. Dandridge and Dr. William Carson examined the patient again, making a very thorough physical examination, without being able to locate the foreign body. Although the patient was at intervals entirely free of any annoying sensation, he still insisted that the pea was somewhere in his chest. Later on in the afternoon the patient had severe paroxysms of coughing, when Dr. C. R. Holmes was consulted, who referred the patient to me. The patient was one of those individuals in whom it is easy to inspect, with the laryngoscope, the larger part of the trachea. But neither this nor repeated physical examinations could produce a positive proof as to the presence or whereabouts of the foreign body. In fact, there seemed to be a general doubt among the physicians as to his actually having a foreign body in his air-passages. In the evening the patient was taken to the gymnasium, and hung head downward, and pounded on the back and chest, in the hope of removing the body by gravitation, but without avail. That night and Sunday were passed in great distress, the frequent paroxysms of coughing were very violent. Monday gave no relief, and Tuesday morning he felt very exhausted. The chest was so painful that he endeavored to suppress the cough as much as possible. Tuesday morning, sixty six hours after the beginning of the trouble, he suddenly had a severe coughing paroxysm,

during which he coughed up a large sized green pea. In a few days all the above mentioned symptoms disappeared, and he has never experienced any ill effects since.

CASE II.—Miss E. R.—, sixteen years of age, while eating soup about two months ago, had a severe choking spell, and declared that she had swallowed a bone. She soon became dyspnœic, and physicians were sent for. When Drs. Schoemer, Schwagmeyer, and Topmøller arrived they found the girl unconscious; there was marked dyspnœa and pronounced cyanosis. Failing to discover a foreign body in the pharynx or in the upper larynx they summoned me in consultation. Upon arrival, about one hour after the accident, I found the patient lying on a sofa, unconscious, and somewhat cyanotic. She was breathing with great difficulty, the loud inspiratory noise being audible all over the room. The pulse was small, indistinct, and very rapid. During inspiration the jugular and epigastric regions were deeply retracted.

A laryngoscopic examination could be made with the greatest difficulty only, on account of the comatose condition of the patient. However, I was enabled to determine that there was no foreign body in the larynx, but thought to have twice seen a whitish substance below the vocal cords, without, however, being absolutely sure of it. It may be added that the father of the girl, a very sensible man, had some doubts about his daughter actually having a foreign body in her throat, since she had had choking spells of a hysterical order before, though of a less severity.

After a brief consultation immediate tracheotomy was decided upon, as the patient was rapidly sinking. Accordingly the high tracheotomy was done. I selected this instead of the low operation, because the surgeon is able to do it in much less time, which is of importance when death from suffocation is impending; and secondly, because an opening in the upper tracheal rings is more adapted to the removal of a foreign body lodged in the subglottic space than the opening afforded by the lower

tracheotomy. No attempt was made at the time of the operation to find the foreign body, as the patient was almost apnœic. But within a few days I began the search for the foreign body, and discovered it impacted in the space above the wound channel. In the presence of the physicians who had seen the case with me, I removed, with a small pair of curved forceps, a quadrangular piece of bone, of about the size of a five-cent piece, through the tracheal opening, from the subglottic space, where it had been held firmly impacted by its rough edges. The patient, after the removal of the foreign body, made a quick and uninterrupted recovery.

If we analyze these two cases we may arrive at the conclusion that, in the first case, tracheotomy would not have been called for, for two reasons : Firstly, because there was some doubt regarding the pea having actually entered the air-passages ; secondly, because the patient recovered spontaneously ; while in the second case the threatening symptoms demanded, and the recovery of the foreign body justified, the operation. Now, after a number of years have passed since the first case made the spontaneous recovery, I must confess that I am at present of the opinion that I ought to have recommended tracheotomy in the first case also. That the foreign body would be spontaneously expelled is a fact that could not be anticipated ; it is certainly the exception, and our therapeutical measures ought not to be guided by exceptions. The proportion of cases where patients under similar conditions perish without operation, is much larger than where an operation is performed. Some authors place this proportion of mortality as about two to one. I recollect a case, from the practice of a colleague, which illustrates this point, and which I may be permitted to briefly mention, as it never has been published. A vigorous young man was unfortunate enough to draw into his windpipe a dried white bean, which he held playfully in his mouth. After a severe coughing paroxysm the patient had a sensation of pressure below the sternum. A physician was con-

sulted, who, after a thorough examination, proposed tracheotomy. This was refused, even when after periods of temporary relief excessive cough and difficult breathing returned at short intervals. The patient died about four months after the accident, of pneumonia. It is reasonable to suppose that by an early tracheotomy the foreign body might have been removed, or its expulsion facilitated. And while I am far from asserting that all cases in which tracheotomy is done will get well, I still believe that the chances are a great deal better for the patient if the operation is performed. There was also some doubt in my second case as to the presence of a foreign body; but the history of the case, as well as the threatening symptoms, demanded an immediate operation, and the possible failure of finding the foreign body after the operation could not greatly have militated against the necessity of the operation.

If we, therefore, concede that foreign bodies ought to be removed from the air-passages in all cases, we may briefly examine the different methods.

We may safely omit from discussion such obsolete methods as causing the patient to sneeze or to vomit, or that of succussion of the chest and back of the patient while he is put in a position with his head hanging downward. Although they may have occasionally aided the expulsion of the foreign body, they are generally futile, and at times even dangerous, inasmuch as often valuable time is lost with such procedures.

The last-named measure is also liable to cause spasm of the glottis if the foreign body should happen to strike the lower surface of the vocal cords, or may lead to impaction of the foreign body in the subglottic region.

There remain, then, operative measures only, which are either endo laryngeal, *i.e.*, the removal of foreign bodies by instruments introduced through the mouth, or extra-laryngeal, *i.e.*, the opening of the air-passages for the purpose of relieving dyspnoea and of removing the foreign body.

It stands to reason that we should always try to remove the foreign body from the pharynx and from the larynx by the endo laryngeal method ; that, on the other hand, the extra laryngeal method is indicated in such cases where foreign bodies have entered the trachea or bronchi ; or whenever the life of the patient is in immediate danger of suffocation, when there is no time or no possibility of making attempts at endo-laryngeal operations. This last indication permits, of course, of a certain latitude, as being greatly dependent upon the circumstances of the case and the dexterity of the physician. That tracheotomy ought also to be performed in cases where the foreign body has entered the bronchial tubes, is advised, not so much with a view of extracting the foreign body from the bronchus, as for the purpose of directly exciting paroxysms of cough, and thus to facilitate the expulsion of the foreign body through the artificial opening.

The foregoing remarks refer mainly to such cases where there is no doubt that a foreign body has actually entered the air-passages. I am, however, also of the opinion that in doubtful cases, where there is no absolute proof of the presence of a foreign body in the air passages, yet where there is good and sufficient reason to believe, by circumstantial evidence as it were, that an extraneous substance is lodged somewhere in the air-passages, that in such cases we should give the patient the benefit of the doubt. And while I am far from speaking lightly of the operation of tracheotomy, I cannot help thinking that in many cases of doubt it will help to save life.

